

What Is Claimed Is:

1. A method of manufacturing a broadband reflective polarizing plate using a laminated coating technique, comprising
5 the steps of:

(a) coating a substrate film on which a first orientation layer is coated with a cholesteric liquid crystal solution;

(b) irradiating a cholesteric liquid crystal coating layer formed in (a) with UV to form a liquid crystal film;

10 (c) coating said liquid crystal layer formed in (b) with a second orientation layer;

(d) coating said second orientation layer with said cholesteric liquid crystal solution having different selective light-reflecting central wavelengths on to form a cholesteric
15 liquid crystal coating layer; and

(e) irradiating said cholesteric liquid crystal coating layer with UV to form a cholesteric liquid crystal film,

wherein two or more cholesteric liquid crystal layers having different selective light-reflecting central wavelengths,
20 which are manufactured by repeatedly performing the above steps (c) to (e) once or more times, are sequentially laminated in order from shorter wavelength to longer wavelength in the laminated coating method, thus forming a broadband reflective polarizing plate covering the range of visible light as a
25 selective reflection wavelength region.

2. The method of claim 1, wherein said cholesteric liquid

crystal film is formed by mixing a curable nematic liquid crystal material and a curable chiral liquid crystal material and then irradiating the mixture with UV.

5 3. The method of claim 1, wherein said cholesteric liquid crystal film is formed in such a manner that the selective light-reflecting central wavelengths of said cholesteric liquid crystal layers are adjusted to be different by controlling the ratio of mixing of a nematic liquid crystal material and a
10 chiral liquid crystal material and then irradiating the mixture with UV.

 4. The method as claimed in claim 1, wherein said first and second orientation layers are films that can horizontally
15 orientate a nematic liquid crystal.

 5. A broadband reflective polarizing plate covering the range of visible light as a selective light-reflecting central wavelength, which is fabricated in the method according to any
20 one of claims 1 to 4, wherein the number of said first and second orientation layers and cholesteric liquid crystal layers is two or more, the cholesteric liquid crystal layers have different selective light-reflecting central wavelengths, and the cholesteric liquid crystal coating layers are laminated
25 sequentially in order from shorter wavelength to longer wavelength in the laminated coating method.

6. A method of manufacturing a broadband reflective polarizing plate, comprising the steps of:

(a) coating a substrate film on which a first orientation layer is coated with a cholesteric liquid crystal solution;

5 (b) irradiating a cholesteric liquid crystal layer formed in (a) with light to form a liquid crystal film;

(c) coating said liquid crystal layer formed in (b) with a second orientation layer;

10 (d) coating said second orientation layer with said cholesteric liquid crystal solution having different selective light-reflecting central wavelengths on the orientation layer to form a cholesteric liquid crystal film; and

(e) irradiating said cholesteric liquid crystal coating layer with light to form a cholesteric liquid crystal film,

15 wherein two or more cholesteric liquid crystal layers having different selective light-reflecting central wavelengths, which are manufactured by repeatedly performing the above steps (c) to (e) once or more times, are sequentially laminated in order from shorter wavelength to longer wavelength in the
20 laminated coating method, and a retardation film is laminated on the broadband reflective polarizing plate having a visible light region as a selective reflection wavelength region.

7. The method of claim 6, wherein said cholesteric liquid
25 crystal film is formed by mixing a curable nematic liquid crystal material and a curable chiral liquid crystal material and then irradiating the mixture with UV.

8. The method of claimed claim 6, wherein said first and second orientation layers are films that can horizontally orientate a nematic liquid crystal.

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9. The method of claim 6, wherein said phase-difference film is attached to the side of said cholesteric liquid crystal film having the shortest wavelength of said broadband reflective polarizing plate.

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10. The broadband reflective polarizing plate manufactured by laminating reflective polarizing plate comprised of two or more laminated structures comprised of said first and second orientation layers and cholesteric liquid crystal layers
15 manufactured according to any of claims 6 through 9, and a retardation film.

11. A liquid crystal display, wherein two or more cholesteric liquid crystal layers having different selective
20 light-reflecting central wavelengths are laminated sequentially in order from shorter wavelength to longer wavelength in the laminated coating method to form a broadband reflective polarizing plate covering the range of visible light as a selective reflection wavelength region, and then retardation
25 film is laminated on the broadband reflective polarizing plate to form a reflective polarizing plate which in turn is disposed between a backlight and a liquid crystal cell unit, said two or

more cholesteric liquid crystal layers being formed by repeatedly performing the steps of coating an orientation layer on a base film and drying a first orientation layer, coating a cholesteric liquid crystal solution on the base film in which
5 said first orientation layer is coated and then irradiating said cholesteric liquid crystal solution layer with light to form a liquid crystal film.

12. The liquid crystal display of claim 11, wherein said
10 cholesteric liquid crystal film is formed by mixing a curable nematic liquid crystal material and a curable chiral liquid crystal material and then irradiating the mixture with UV.

13. The liquid crystal display of claim 11, wherein said
15 first and second orientation layer is an orientation film that can horizontally orientate a nematic liquid crystal.

14. The broadband reflective polarizing plate manufactured by using the laminated coating method, wherein the broadband
20 reflective polarizing plate in which the number of laminated structures of said first and second orientation layers and the cholesteric liquid crystal layer is two or more, is integrally formed with an absorption type polarizing plate or a diffusion plate being laminated in such a manner that an adhesive layer is
25 interposed between the absorption type polarizing plate or the diffusion plate and the reflective polarizing plate being fabricated in the method according to any one of claims 6 to 9.